

## WHAT IS CLAIMED IS:

1. A method of increasing the reproductive ability in a female subject comprising increasing the amount or activity of PTX3 in the cumulous oophorus and/or the extracellular matrix of the cumulous oophorus.
2. A method of decreasing the reproductive ability of a female subject comprising decreasing the amount or activity of PTX3 in the cumulous oophorus and/or the extracellular matrix of the cumulous oophorus.
3. The method of claim 1 further comprising administering at least one of a viral or plasmid vector containing a nucleic acid sequence encoding a human PTX3 or functional fragment thereof to said female subject such that the amount or activity of PTX3 in the cumulous oophorus and/or the extracellular matrix of the cumulous oophorus of said female subject is increased .
4. The method of claim 1 further comprising administering a PTX3 protein or functional fragment thereof to said female subject such that the amount or activity of PTX3 in the cumulous oophorus and/or the extracellular matrix of the cumulous oophorus of said female subject is increased.
- 5 The method of claim 3 or claim 4 wherein said administering comprises local administration.
6. A method of assessing the reproductive ability of a female subject comprising measuring or detecting the presence or amount of PTX3 protein in said female subject as a diagnostic marker of the reproductive ability of said female subject.
7. A method of screening a pharmaceutical compound to asses the capability of said compound to affect the reproductive ability in a female subject

comprising measuring or detecting the ability or effectiveness of said compound to increase or decrease the presence or activity of PTX3 in the extracellular matrix of cumulous oophorus, or measuring or detecting the ability or effectiveness of said compound to increase or decrease the presence or activity of PTX3 expressed from granulosa cells, or measuring or detecting the ability or effectiveness of said compound to bind or inhibit the binding of PTX3 to a target receptor or to function.

8. A method of claim 2 further comprising administering a modulator of PTX3 to said female.

9. A pharmaceutical composition comprising a modulator of long pentraxin PTX3 activity in an amount sufficient to affect reproductive ability when administered to a female subject.

10. The composition of Claim 9, wherein the modulator is component which suppresses or, alternatively, enhances PTX3 activity.